

1. A method for fabricating a semiconductor structure, comprising:

forming a silicide layer over a semiconductor substrate; and

removing a portion of the silicide layer by chemical mechanical polishing.

2. The method of claim 1, further comprising:

forming a high region and a low region on the semiconductor substrate,

wherein the high region and the low region are formed before the silicide layer is formed and the portion of the silicide layer removed by chemical mechanical polishing is removed from the high region.

3. The method of claim 2, wherein the high region is formed by depositing a polysilicon layer and removing a portion of the polysilicon layer.

4. The method of claim 3, wherein the silicide layer has a first chemical mechanical polishing rate, the polysilicon layer has a second chemical mechanical polishing rate, and the first chemical mechanical polishing

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rate is higher than the second chemical mechanical polishing rate.

5. The method of claim 1, further comprising:
forming a dielectric layer over the silicide layer;
and
removing a portion of the dielectric layer to expose
the portion of the silicide layer before removing the
portion of the silicide layer.

6. The method of claim 5, wherein the dielectric layer comprises silicon dioxide.

7. The method of claim 5, wherein the dielectric layer comprises silicon nitride.

8. The method of claim 5, wherein the portion of the dielectric layer is removed by chemical mechanical polishing.

9. The method of claim 5, further comprising forming a top layer after forming the dielectric layer and removing a portion of the top layer before removing the portion of the dielectric layer.

10. The method of claim 9, wherein the top layer comprises a titanium nitride layer.

11. The method of claim 10, wherein the portion of the titanium nitride layer is removed by chemical mechanical polishing.

12. The method of claim 11, wherein the portion of the titanium nitride layer is removed with a first slurry and the portion of the dielectric layer is removed with a second slurry.

13. The method of claim 12, wherein a polishing rate of the titanium nitride layer polishing rate with the first slurry is greater than a polishing rate of the dielectric layer with the first slurry.

14. The method of claim 12, wherein a polishing rate of the titanium nitride layer with the second slurry is less than a polishing rate of the dielectric layer with the second slurry.

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15. A method for fabricating a semiconductor structure, comprising:

forming a polysilicon feature on a semiconductor substrate;

depositing a first metal layer over the polysilicon feature;

reacting the first metal layer with the polysilicon feature to form a metal silicide;

depositing a dielectric layer over the metal silicide and the semiconductor substrate;

removing a portion of the dielectric layer over the metal silicide to expose a portion of the metal silicide; and

removing the portion of the metal silicide by chemical mechanical polishing.

16. The method of claim 15, wherein the portion of the dielectric layer is removed by chemical mechanical polishing.

17. The method of claim 16, wherein the dielectric layer has a first polishing rate, the metal silicide has a second polishing rate, and the first polishing rate is different from the second polishing rate.

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18. The method of claim 15, further comprising:
removing the polysilicon feature, thus creating an
opening in the dielectric layer.

19. The method of claim 18, further comprising:
filling the opening in the dielectric layer with a
second metal.

20. A method for fabricating a semiconductor structure, comprising:

- depositing a material over a semiconductor substrate,
- patterning the material to define a topography having a high region and a low region;

forming a metal silicide in the high region of the topography and in the low region of the topography; and removing the metal silicide from the high region of the topography by chemical mechanical polishing.

21. The method of claim 20, wherein the high region comprises a polysilicon feature.

22. The method of claim 20, wherein the chemical mechanical polishing of the metal silicide is faster than

the chemical mechanical polishing of the material defining
the topography.

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